# Workshop on Low Cost ICTs in Agriculture Communities of Practice

In-service Training Institute,
Sri Lanka Department of Agriculture
Gannoruwa, Peradeniya, Sri Lanka

15 October 2012

Acknowledgements

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1.0 Project Description

This workshop was is part of a Canadian-funded partnership development project to examine the use of low-cost information and communication technologies (ICTs) for knowledge mobilization among agricultural communities of practice. The primary purpose of the project is to establish and support the activities of an emerging international and multi-organizational research partnership with the broad goal of enhancing capacity for local innovation through appropriate and sustainable ICTs. To this end, the project partners are working together to develop a set of case studies that will examine how academic institutions, government agencies and international organizations can work with local communities to enhance knowledge mobilization for sustainable farming practices using low-cost, widely accessible information and communication technologies such as mobile phones and radio broadcasting.

Partnership development activities will take place in three phases between 2012 and 2015. The first phase of the project centres on a set of core activities intended to establish working relationships among partner organizations and to establish a work plan for achieving the mid and long term objectives of the partnership. The workshop is a starting point for the project and provided an opportunity for partners and other interested parties to begin working together and to identify opportunities for conducting collaborative case study research involving agricultural communities of practice in Sri Lanka.

The case studies identified during the initial phase of the project will provide the basis for an Integrated Action Research Strategy based on a community of practice framework. This approach begins with a collaborative study to explore the social practices that communities engage in with respect to knowledge mobilization for sustainable agriculture. The initial study will specify a methodological framework and research instruments to develop qualitative descriptions of agricultural communities of practice in order to suggest areas where low-cost ICTs might be introduced to enhance knowledge mobilization both in terms of expert and indigenous knowledge. A rapid prototyping method will be developed and introduced to support the implementation and assessment of a small set of short duration pilot projects to test ICT enhancement ideas. Results from the pilot projects will, in turn, provide a basis for further discussion of the impact of ICTs on the social practices of knowledge mobilization within the communities and possibilities for local

innovation.

The third phase of the project will reflect on and critique findings from the integrated action research study. The partners will work together to propose a model for ICT-enhanced knowledge mobilization that integrates local communities of practice in partnership with local university, government, and non-government partners; in relation to this, the partnership will also develop a training strategy to transfer capabilities to local communities to enable rapid implementation and evaluation of ICT-enhanced services to address emergent needs and knowledge acquired of local agricultural communities of practices. The third phase will also focus on the development of an ongoing and expanded partnership arrangement with a longer term research agenda.

2.0 Workshop Description

The workshop on the use of low cost information and communication technologies (ICTs) for individuals working across the agricultural sector is intended as an inaugural activity of the partnership development project. Its overall objective was to establish a working relationship between partners and communities of practice in order to provide an introduction to low-cost ICTs in agriculture and to identify opportunities for further in-depth study for subsequent phases of the project.

The event was held in the In-service Training Institute, Department of Agriculture, Gannoruwa, Sri Lanka on 15th October from 9.00 am to 2.30 pm (Annex 1). Project partners involved in the workshop included members of the Department of Agriculture, LIRNEasia, University of Alberta, University of Guelph, University of Peradeniya and other local organizations (Annex 2).

The workshop provided an introduction and basic training in the use of free and open source software (FOSS) to enable community groups and individuals to implement and use easily-accessible tools for communication, information collection, knowledge sharing, data visualization, and interactive mapping. Participants were introduced to four Free and Open Source software platforms that are in wide use around the world: FrontlineSMS and FrontlineSMS:Radio for text messaging, Freedom Fone for creating small scale interactive voice response systems with telephones, and Ushahidi for creating and curating interactive maps with geo-located reports from mobile devices (i.e., crowdmapping).

3.0 Objectives of the Workshop

- To introduce participants to a set of low-cost ICTs that can be used to support agricultural communities of practice across the value chain;

- To provide participants with hands-on experience using these low cost ICTs and to demonstrate basic applications relevant to agriculture;

- To help participants to identify the strengths, weaknesses, opportunities and threats (SWOT) of using these ICTs in their local context;

- To encourage participants to consider about how they might carry out follow up activities with these ICTs using a quick action planning tool;

- To assist the research partners to identify possible case studies, interested parties, and other considerations for further study within the scope of the project

4.0 Workshop Activities

The workshop began with opening remarks, followed by a brief introductory presentation about the project and workshop objectives. The presentation then provided participants with background on the four key software platforms being used in the project, including brief use cases of how each is being used in knowledge mobilization for various agricultural activities.

Workshop participants were then divided into four groups (approximately 6 per group). Each group was assigned a number and asked to go to one of four computer workstations that had been set up in the room. Each workstation was assigned to one of the four software platforms: (1) FrontlineSMS; (2) FrontlineSMS:Radio; (3) Ushahidi; (4) Freedom Fone.

Participants spent approximately 10 minutes at each workstation, where a member of the research team introduced the software and then guided them through a brief hands-on activity intended to give them basic experience using the software. Each group of participants rotated through each of the four workstations, giving them a chance to experience each of the four software platforms.

Following the hands-on activities, participants were then asked to work in their groups to carry out a SWOT analysis in relation to the four software platforms. After completing the SWOT analysis, participants were then asked to work individually to complete an Action Plan document. A plenary discussion summarizing findings from both exercises concluded the workshop.

This section provides a brief introduction to each software platform and then describes the hands-on activity carried out with participants while they were at that workstation.

4.1 FrontlineSMS

FrontlineSMS is free open source software (FOSS), created and maintained by the kiwanja Foundation and made available to the public under a GNU Lesser General Public

License (LPGL). It is used by a variety of organizations around the world to distribute and collect information through Short Message Service (SMS) over mobile phones. FrontlineSMS enables users to connect a mobile phone or GSM-based modem to a desktop or laptop computer, creating a text messaging hub capable of sending and receiving SMS through the local commercial cellular network using a local mobile telephone number. The software is standalone and does not require an Internet connection for basic functionality.

The core function of FrontlineSMS is to provide a central hub for sending and receiving text messages. Additional functions include group messaging, scheduling, auto-response and auto-forwarding of message. If Internet access is available, FrontlineSMS can be connected to online SMS services and set up to feed incoming messages to other web or e-mail services. FrontlineSMS also includes more advanced functions including HTTP triggering, and the creation of of Java-based forms that can be used to collect structured data reports from mobile clients[1].

The hands-on activity was intended to provide a basic introduction to FrontlineSMS, its layout, and core functions while demonstrating how it might be used in an agricultural context.

- Activity – How to create a distribution group with SMS auto-forwarding
  o Install & configure the FrontlineSMS (Annex 3);
  o Overview of the software and features;
  o Create several contact groups (e.g., pepper farmers, onion farmers)
  o Setup and test keywords to automatically enable self-subscription of farmers to an interest group and provide auto forwarding of messages to members of that group.

Setup & configuring FrontlineSMS

experimenting FrontlineSMS Keywords

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[1] http://en.wikipedia.org/wiki/FrontlineSMS

4.2   FrontlineSMS:Radio

FrontlineSMS:Radio is a specialized version of the FrontlineSMS platform, customized to suit the requirements of radio broadcasters. Radio remains an important source of information for many communities and FrontlineSMS:Radio can enhance traditional broadcasting by facilitating two-way communication with listeners through text messaging.

FrontlineSMS:Radio makes it possible for listeners to send questions or comments to their local broadcaster through text messages as an alternative to voice telephone calls. The platform also enables radio stations to remind listeners of upcoming programs, to design and conduct audience polls using text messages, to gather data from audiences in real-time, to connect listeners to each other, and to maintain a detailed record of all interactions with listeners through text messages, creating databases for future program planning[2].

The hands-on activity was intended to provide a basic introduction to FrontlineSMS:Radio, its layout, and core functions while demonstrating how it might be used by radio broadcasters for their agriculture-related programming.

- Activity – How to create an audience poll and reminder using SMS
    - Install & configure the FrontlineSMS:radio
    - Create an audience poll and demonstrate its use
    - Create contact groups for sending reminders about upcoming broadcast programs

Setup & configuring FrontlineSMS:radio

4.3   Ushahidi

Ushahidi is a free and open source software platform used by groups around the world to enable information collection, visualization, and interactive mapping (sometimes referred to as 'crowdmapping'). The software can be downloaded and installed on a local

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[2] http://radio.frontlinesms.com

server or accessed through a free hosted service at crowdmap.com. Ushahidi Inc. is a non-profit organization that developed and maintains the software under a GNU Lesser General Public License (LPGL).

The core function of Ushahidi is to allow communities to create interactive maps based on reports sent through a variety of means, including SMS, web forms, smartphone applications, and social media. Reports are usually location-based and typically include text. Ushahidi also makes it possible to send reports that contain images and video. Reports usually reference a geographical location and are plotted on an interactive map for viewing. The platform contains several features that permit validation and approval of incoming reports, reader comments on published reports, alerting for new reports, and filtering of social media streams to generate reports. Ushahidi can be interlinked with FrontlineSMS to enable SMS-based reporting and alerting with mobile phones[3].

The hands-on activity was intended to provide a basic introduction to Ushahidi, its layout, and core functions while demonstrating how it might be used in an agricultural context to create and post geo-located reports with images. Preparation prior to workshop involved creating an Ushahidi instance for the project at crorwdmap.com, preparing a set of iPod touch devices with the Ushahidi app, and configuring FrontlineSMS to forward incoming text messages to the instance.

- Activity – How to create a report for Ushahidi
  - Overview of Ushahidi platform and key features;
  - Create a simple report using iPod touch device and upload the report to Ushahidi over local wifi network;
  - View the report on Ushahidi, publish it to the interactive map.

Dr. Gordon Gow from University of Alberta demonstrates how to upload reports to Ushahidi
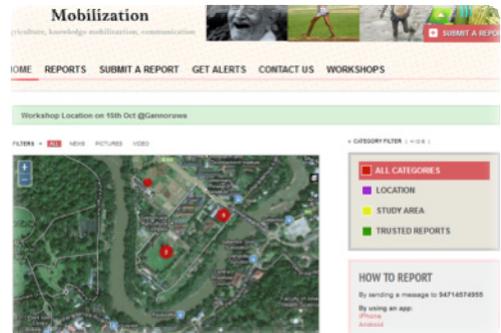
Ushahidi - Crowdmap web portal for the project[4]

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[3] http://en.wikipedia.org/wiki/Ushahidi
[4] https://ict4dlk.crowdmap.com

4.4   Freedom Fone

Freedom Fone is a free and open source software telephony platform created and maintained by the Kubatana Trust in Zimbabwe that enables users to create and share audio content using Interactive Voice Response (IVR), voicemail and SMS. It is available to the public under a Mozilla Public License. Freedom Fone allows individuals or organizations to create two-way phone-based communication services to interact with any audience, in any language, at any time and without need for Internet. It uses existing local telecom networks and can be introduced in any context with reliable network coverage[5].

Freedom Fone can be installed on a desktop or laptop computer with an attached mobile phone or GSM-type modem. The core function of Freedom Fone is based on voice menus to structure interactive communication using a mobile (or landline) telephone in order to collect or share information. Features include SMS polls to organize opinion surveys, voicemail and an interactive voice response system.

The hands-on activity was intended to provide a basic introduction to Freedom Fone, its layout, and core features, while demonstrating how it might be used in an agricultural context. Preparation for the hands-on activity involved installing Freedom Fone on a laptop and configuring the GSM modem to connect it to a local commercial cellular network.

- Activity – How to create a voicemail database
  - Overview of Freedom Fone and its basic features;
  - Using a mobile phone, call a designated number, leave a voice message;
  - Retrieve the stored message from Freedom Fone, add meta data to it through tag and category.

Setup & configuring Freedom Fone with

Nuwan Waidyanatha from LIRNEasia

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[5] http://www.freedomfone.org/page/how-it-works

5.0 SWOT Exercise

The analysis of SWOT (strengths, weaknesses, opportunities, threats) for a project is an important preliminary step in identifying anticipated benefits as well as unexpected barriers when implementing a technology project. The technique involves small groups of individuals from different organizations brainstorming, discussing and reporting the strengths, weaknesses, opportunities and threats of a proposed project.

The workshop activity involved four groups conducting the SWOT exercise and subsequently reporting their findings. The technique enables participants to discuss ways in which weaknesses and threats can be overcome, and how strengths and opportunities can be realized through project operations.

SWOT Team Two presentation   *SWOT Team Four presentation*

5.1   Results from the SWOT exercise

Strengths

- Free and open source software (FOSS)
- User friendly
- Availability of supportive devices
- Low operational cost
- Easy accessibility
- Time saving
- Having skilled human resources in the Department of Agriculture
- Minimal human resource requirement
- Deals with already familiar technology

Weaknesses

- High capital cost

- Trouble shooting

- Depends on human involvement

- Language barrier

- Skill can't be transferred

- Lack of credibility and reliability

- Operational cost (SMS)

- Requirement of a moderator

- Lack of ICT proficiency

Opportunities

- Easy accessibility

- Time saving

- Social networking

- Supportive government policies

- International trends in agriculture (ICT)

- Willingness to use by younger generation

- Positive attitudes of stakeholders

- Availability of required devices (mobile phones)

- Available websites

- Cost effective

Threats

- Cost of technology (SMS)

- Language barrier

- Trouble shooting

- Less stimulation in elderly population

- Lack of ICT benefit awareness

- Lack of training

- Lack of technological infrastructure

- Attitudes of policy makers

5.2   Analysis of SWOT results

The SWOT analysis identified areas in which there were apparent contradictions between what might be considered both a strength/opportunity and weakness/threat of the four software platforms demonstrated in the hands-on activity.

The first contradiction in the SWOT analysis is related to cost. Costs were determined as either operational or capital costs. Costs were also defined as the cost of time or easy accessibility as well as finance. Operational costs for the low costs tools were considered both strengths and weakness. SMS was specifically identified in terms of tool that was costly in terms of operation.

Recommendation: the project will need to identify the actual versus perceived costs of the tools. To be "low cost" both time and finance required for each of the tools should be clearly identified.

Another apparent contradiction in strengths and weaknesses of the tools is related to human resource requirements and skills. On one hand participants reported that the Sri Lanka Department of Agriculture is seen as having skilled human resources for using these technologies. In contrast, some participants feel they need further skills training and evidence that these technologies are useful for their work.

Recommendation: the project will need to ensure additional skills development where required by project participants and enable experts to lead and facilitate this skills training or problem solving. As well, the project should assemble further evidence of how the tools are being used in agricultural and rural development.

The SWOT analysis identified areas of opportunity that can be further used to overcome the above-mentioned weaknesses/threats. One opportunity identified is social networking – using relationships among participants to help one another share information, develop skills and identify ways to use the tools. It was pointed out that there are clear government policies to support the use of these digital tools. There is a positive attitude among stakeholders. Furthermore, there is a good willingness, especially among the younger generation of agricultural development workers to use new technologies.

Recommendation: support participant learning and discussion in the emerging community of practice supported by the project. These learning resources can be shared on the Wiki Goviya Agricultural Discussion Forum which has been recognized as an award-winning innovation in government knowledge mobilization and which can be accessed by more

stakeholders of agricultural development in Sri Lanka.

Finally, as the project moves ahead it needs to be mindful of some threats or limitations on the use of these tools. Language barriers were cited as weaknesses and threats of the tools. The need for technical support when the tools are tried out requires attention, keeping in mind that some users who are less familiar with new technologies or have less access to infrastructure (computers/laptops, internet access, etc.) will need assistance and support to be involved in the project.

6.0 Action Plan Exercise

Action planning is a tool initially developed in the late 1960s to facilitate action-oriented learning. It has been widely used in agricultural and rural development agencies around the world. The action planning technique allows for the exchange of knowledge and information in a workshop to move to the level of influencing new behaviour and change at the level of individuals, organizations, partnerships or networks for agricultural research and development. The technique involves four steps:

Step 1: In the workshop participants critically reflect on their discussions and learning and jot down ideas based on their individual learning and group interactions. This may include new ideas emerging from the workshop or consolidated from past experience (see Annex 5);

Step 2: Participants are encouraged to share their action plans with other colleagues and collaborators. At least 2 months after the workshop the organizers contact the participants asking for updates on the action plans. Further information may be exchanged, problems in implementing the actions identified and progress assessed. This process continues and results continue to be shared with the entire network of participants preferably through an on-line discussion group and project websites;

The project will begin to follow up with participants on their actions plans in early January 2013. We will report on the results of this follow up and encourage participants to continue to implement their actions and share their challenges and accomplishments with others.

Dr. Helen Hambly from University of Guelph reviews the action plans

6.1 Aggregate results from the Action Plan exercise

Within 2 months period

- Having a computer
- Be familiarize with the tools
- Get more training
- Select and register mushroom farmers from the data base
- Invite farmers to join the ICT program to get up to date knowledge on technology and market
- Learn more for skill development
- Transfer knowledge to the fellow officer
- Contact all facilitators to learn more about the applications
- Invite selected farmers for awareness programs and discussions
- Fulfill supportive device requirement (e.g., get a computer)
- Discuss with others and install the software
- Inform other officers about these programs
- Share knowledge on three FOSS with SPMDC officers
- Download the FOSS
- Develop a data base including mobile numbers, email addresses
- To be familiarized with the use of these software
- Set up farmer groups and work with them
- Go through the case studies on these technologies
- Guide the ICT team to identity related problems
- Download FrontlineSMS software and try it with one of my research groups
- Create a cloud [crowd] map

After 2 months period

- Select & register experts in following areas for consultancy
  - o Finance
  - o Technical
  - o Marketing
- Use Radio/SMS polling tool to identify burning issues
- Set up a farmer group and educate them

- Inform others about the application

- Start programs to educate farmers

- Conduct awareness programs for farmer groups

- Select a target farmer group

- Conduct training sessions for the relevant officers

- Talk to Director – SPMDC to get approval for the use of software

- Conduct trial runs

- Form a separate group for each crop (e.g., seed producing)

- Enhance market opportunities for farmer communities

- Hope to contact you after success

- Share research questions with the members of my organization

As opportunity arises

- Seek further study opportunities

- Coordinate farmer groups & resource people

- Get further training on this area to develop action plans

- Help to develop the AGMIS to disperse crop cultivation details

- Practice the application with seed producing farmers

- Contact LIRNEasia through e-mails to get help and to customize the steps

- Get government help

- Share research questions with colleagues

- Share information on low cost ICTs with the members of my organization

6.2   Analysis of Action Plan results

The individual results of the action planning exercise were grouped into general categories of action that will be followed up in the project. The key action areas were:

Acquire technology and software. Several of the participants will be downloading the FOSS software featured in this workshop. In some cases, access to computers is also needed. For these individuals access can be obtained by 1) working with other partners in the project; 2) sourcing equipment (e.g. laptop) from a project partner.

Contact farmer groups, obtain farmer data and build farmer awareness. Many participants are interacting with farmer groups and farmers involved in specific extension projects (e.g. seed producers). Workshop participants intend to make farmers aware of the low-cost ICT and how they might be of benefit to farmers. They will collect information from farmers and establish databases which are used by the technologies (e.g. mobile numbers used by Frontline SMS).

Consult with others; seek permission and further information sharing or decision making. In some cases participants indicated that within two months or so they will consult with colleagues and supervisors to use and try out the new low-cost technologies. Such consultation may also be relevant to identifying participating farmer groups and involving them in trials. Participants also saw themselves as being able to share the information and knowledge they gain with others who may be able to use the low cost technologies in their work.

F**orm research questions and conduct demonstration and trials.** After an initial two month period of establishing the software, obtaining necessary permissions and contacting farmers groups several participants propose to try out the software, typically with farmers or participants in their extension activities. Some of the trials will involve the use of the FOSS and others will involve specific functions (e.g. the polling function in Frontline SMS used by radio stations for seeking audience feedback).

Seek training opportunities. Over the short and long term several participants indicated that they would like to develop their skills in the use of FOSS and to learn more about other low cost ICT for agricultural extension.

Connect with other institutions. A number of participants indicated that they need to follow up with project partners (e.g. LIRNEAsia, universities, DOA) to obtain further information on the technologies, keep in contact regarding progress on their activities, seek opportunities for further study or discuss in more depth ideas that were exchanged in the workshop.

7.0 Final Summary and Conclusion

The workshop entitled An Introduction to Using Low Cost ICTs in Agricultural Communities of Practice has helped to establish a community of practice to carry out partnership development and conduct collaborative research on low cost tools for agricultural and rural development in Sri Lanka.

The results of this workshop as identified in this report suggest a number of recommendations, which will be pursued by the project team in the coming months and years:

Recommendation 1:

The research team and participants themselves should begin immediately to make full use of the WikiGoviya website and discussion forum to build relationships, solve problems, and mobilize knowledge on an ongoing basis;

Recommendation 2:

The research team and workshop organizers should share the technical and training materials developed for the workshop on the WikiGoviya website; members of the team should monitor discussions related to these platforms and offer support and implementation ideas whenever possible in order to promote an emerging community of practice and local innovation;

Recommendation 3:

The research team will follow up with participants on their Action Plans (Step 2 of the process) beginning in early 2013.

Recommendation 4:

The research team should work with workshop participants based on the results of the Action Plans to identify a prospective set of case studies to identify stakeholders and communities that are keen to begin working with these software platforms; members of the research team can provide support to solve known problems and to turn observed

weakness/threats into further strengths/opportunities for low cost tools for agricultural and rural development.

Recommendation 5:

The research team should provide feedback to the various international communities of practice that use and support the ongoing development of these software platforms (e.g., FrontlineSMS, Ushahidi, Freedom Fone).

In conclusion, the research partnership and workshop organizers wish to end with a final word of thanks to all of the participants, invited guests and the partner and funding institutions for the accomplishments of this workshop and efforts towards an emerging research partnership and community of practice.

Annex 1

Workshop Agenda

Time	Topic	Resource
09:00 - 09:25	Registration	Ms. Ranithri Abeynayake
09:30 - 09:45	Welcome speech Introduction of workshop agenda, workshop objectives, and quick introduction of the participants	Dr. Rohan Wijekoon
	Introduction of Department of Agriculture by Additional Secretary (agric technology)	Dr. D.P.T. Wijerathne
09:45 - 10:00	Introduction to the project objectives, methodology and technology	Dr. Gordon Gow
10:45 - 11:30	Hands-on technology group exercise	Dr. Gordon Gow Mr. Mohomad Roshan Mr. Chandana Jayathilake Mr. Nuwan Waidyanatha
11:30 - 11:45	Tea break	
11:45 - 12:30	SWOT Analysis	Dr. Helen Hambly
12:30 - 12:45	Action plan discussion	Dr. Helen Hambly
12:45 - 13:00	Closing remarks	Dr. Rohan Wijekoon Dr. Eresha Mendis
13:00 - 14:30	Lunch	
14:30 - 15:30	Radio broadcasters meeting (*Mandatory for all Farm Broadcasting and other radio personnel but optional to others*)	Dr. Helen Hambly Mr. Ranjith Nanayakkara

Annex 1

Role of the Meeting	Type of position	Position	Department	Organization	Name & position of immediate supervisor	Organizatio
Participant	Other	Lecturer	ICT Centre	Wayamba University of Sri Lanka	Dr. WJSK Weerakkody, Director/ICT Centre	ICT Centre, Gonawila
Participant	Other	Lecturer	Dept. of Agriculture	Dept. of Agriculture	Mr. WAG Sisira Kumara, Asst.Director of Agriculture (AV)	Audio Visua Gannoruwa
Participant	Senior manager	Deputy Director Agric extension	Extension Training Centre	Govi. Dept of Agriculture	Director (Extension Training)	Dept of Agr Galaha Roa Peradeniya
Participant	Middle manager	Agriculture Officer	DOA	Department of Agriculture	Gamini Sisira Kumara, Assistant Director	Audio Visul Gannoruwa
Other	Middle manager	Assistant Director of Agriculture	Farm Broadcasting Service Dept.of Agriculture	Farm Broadcasting Service	Dr. Rohan Wijekoon, Director, Information & Communication	Farm Broad Sevice, P.O.Box: 63
Other	Middle manager	Manager	Disas for Management Unit	Sarvodaya Head Office		No: 98, Rav Road, Mor
Observer	Other University	Sr. Lecturer	Agricultural Extension	University of Peradeniya	Head/Ag Extension	University Peradeniya
Participant	Senior manager	Assi. Director of Agriculture(AV)	Agriculture	Dept. of Agriculture	Dr. Rohan Wijekoon, Director, Information & Communication	Audio Visua Gannoruwa
Participant	Other	Demonstrator	Food Science	University of Peradeniya		Dep of Foo Faculty of A University
Participant	Policy maker	Additional Director General Of Agriculture	Department of Agriculture Head Office Peradeniya	Ministry Of Agriculture	K.G Sriyapala, Department Of Agriculture, Peradeniya.	Head Office Of Agriculture
Participant	Middle manager	Agriculture Officer	Audio Visual Center Department Of Agriculture	Audio Visual Center, Gannoruwa.	Mr. Gamini Sisira Kumara	Audio Visua Departmen Agriculture Gannoruwa
Participant	Program Assistant	Media Assistant	Agriculture	Audio Visual Center	Mr.WAD Sisira Kumara, Assistant Director of Agriculture	Gannoruwa
Participant	Middle manager	Agriculture Instructor	Department of Agriculture	Seed & Planting Material Development Center.	Dr. GMW Chithral- Director SPMDC	P.O. Box 19 Planting Ma Developme Developme Agriculture Rd, Perade

Participant	Other Agronomist	Assistant Director (Farm Broadcasting Service)Retired	Agriculture	Agriculture	Dr.Rohan Wijekoon, Director	Communica Informatio Center,Dep Gannoruwa
Participant	Other Agri: Instructor	Agriculture Instructor	Agriculture	Farm Broadcasting Service- Kandy	Mr. J Mohamed Raju O.I.C F.B.S. Kandy Unit	P.O. Box 18 Developme Agriculture
Participant	Other Agri: Instructor	Agriculture Instructor Officer Incharge of F.B.S. - Kandy and Tamil Programme Produser	Depratment of Agriculture	Farm Broadcasting Sevice	Dr. Rohan Wijekoon, Director of Information & Communication	Informatio Communica P.O. Box 18 Agriculture Sri Lanka.
Participant		Agriculture Instructor	Depratment of Agriculture	Farm Broadcasting Sevice	Mr. Hiran Peries Assistant Director of Agriculture	P.O.Box: 63
Participant	Senior manager	Deputy Director of Agriculture	Provincial Depratment of Agriculture	Dip.of Agriculture, Central Province	Mr. MB Dissanayaka Provincial Depratment of Agriculture	Provincial D Agriculture
Participant	Program Assistant	Intern	Disaster Unit	Sarvodaya/	Manoj Silva, Head of Disaster Unit, Sarvodaya.	Moratuwa
Participant	Senior manager	Assistant Director of Agriculture (WAE)	Depratment of Agriculture	Dept. of Agriculture	WGMG Dayawansa Director (Extension.Training)	Extension a Division, Women's A Extension U 18, Perader
Participant	Senior manager	Deputy Director of Agriculture		Provincial Depratment of Agriculture (C.P)	MB Dissanayake Provincial Director of Agriculture	Office of th Director of P.O. Box: 0 Rd, Pilimath
Participant	Senior manager	Assistant Director of Agriculture	Agriculture	Depratment of Agriculture	Mr. WGMG Dayawansa Director /Extension.Training	Peradeniya
Participant	Senior manager	Provincial Director of Agriculture (CP)	Depratment of Agriculture	Depratmentof Agriculture, Central Province	K. Kekulandara, Secretary Agriculture Centerl Provincial Councels	64,Sarasavi Peradeniya
	Program Assistant	Agriculture Program Officer	Depratment of Agriculture	Depratment of Agriculture	Mr. KG Sryaipala,Director General of Agriculture.	Dept of Agr Galaha Roa Peradeniya

Annex 3

Quick guide to install FrontlineSMS 1.6.16.3

Checksum list

A. **Active SIM card from the local mobile partner**
B. **Compatible USB Modem** (http://www.frontlinesms.com/the-software/requirements/)
C. **Computer**
D. **FrontlineSMS Version 1.6.16.3** (download from http://www.frontlinesms.com/the-software/frontlinesms-version-1/download/)

To set up FrontlineSMS Version 1.6.16.3

1. Insert an active SIM into your modem (phone/dongle) and plug into the computer through USB port **(A)**
2. Install your modem software as per the instructions of your device.
3. Check the installed modem is working and then close the programme. (remember to close the mobile partner programme & keep the modem as unplugged)
4. Install FrontlineSMS (by just double click the Install_FrontlineSMS_1.6.16.3.exe file and follow the on-screen instructions)
5. Open FrontlineSMS and check that your modem has been detected by FrontlineSMS by going to the **'Phones'** tab **(B)** and looking in the section "Non-working devices" **(C)**.
   (*It will spend 2-3 minutes to detect* **(D)** *and connect* **(E)** *the attached GSM modem. After detecting model name of your modem should be displayed*)
6. Once Your GSM modem is successfully connected **(F)** to FrontlineSMS, now ready to start sending / receiving messages

   * see the video tutorial in the provided USB stick as well
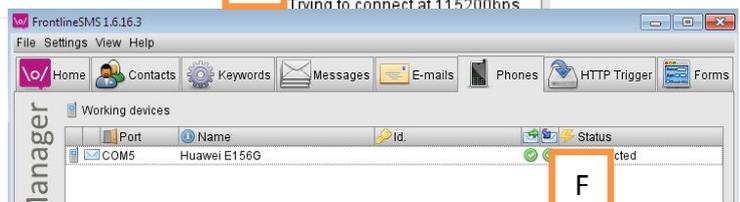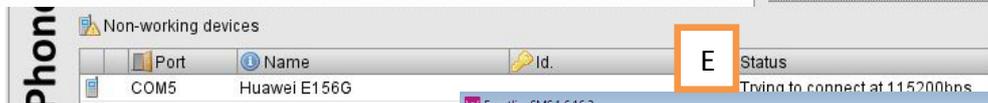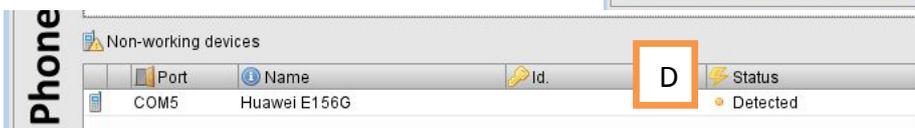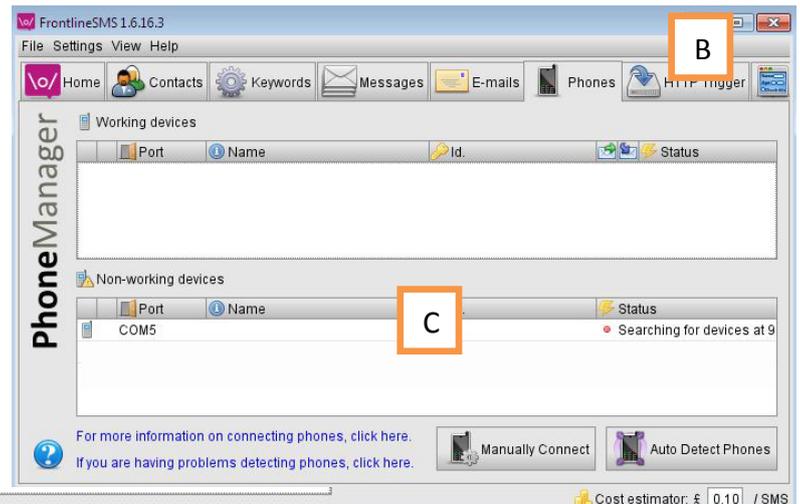
Quick guide to set-up Ushahidi and FrontlineSMS for use together

Technology needed
- FrontlineSMS software
- Compatible USB modem to use with FrontlineSMS
- Ushahidi software: either Ushahidi Platform (server-based) or Crowdmap (Cloud-based)
- Any phone that can send and receive SMS
- Internet connection

To set up Ushahidi & FrontlineSMS to works together

1. Install FrontlineSMS (test whether it is working by sending and receiving a couple of text messages) and Install Ushahidi.
2. In the **addons** tab|**A**| of your Ushahidi or Crowdmap installation, click on 'show all' and navigate to the 'FrontlineSMS **plug-in**'|**B**|. Click on '**activate**' |**C**|, and then on the '**settings**' |**D**| link next to the title.

This takes you to a summary of related actions. If you're using Ushahidi, you'll need to use the Ushahidi **Sync Key|E|**, below. Copy and Paste this and the FrontlineSMS HTTP Post link into a text file.
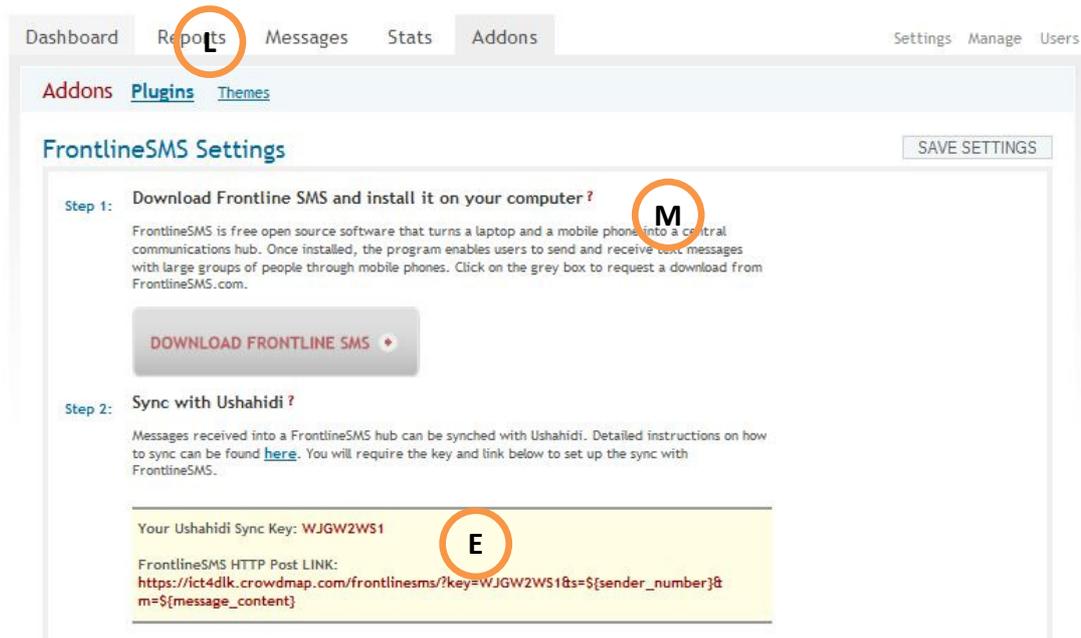

3. In the **settings** section**|F|** at the top right of the dashboard, navigate to the **SMS** tab **|G|**. Under 'default sending provider', set the option to 'FrontlineSMS'. Enter the phone numbers that are connected to your FrontlineSMS instance, then save settings.
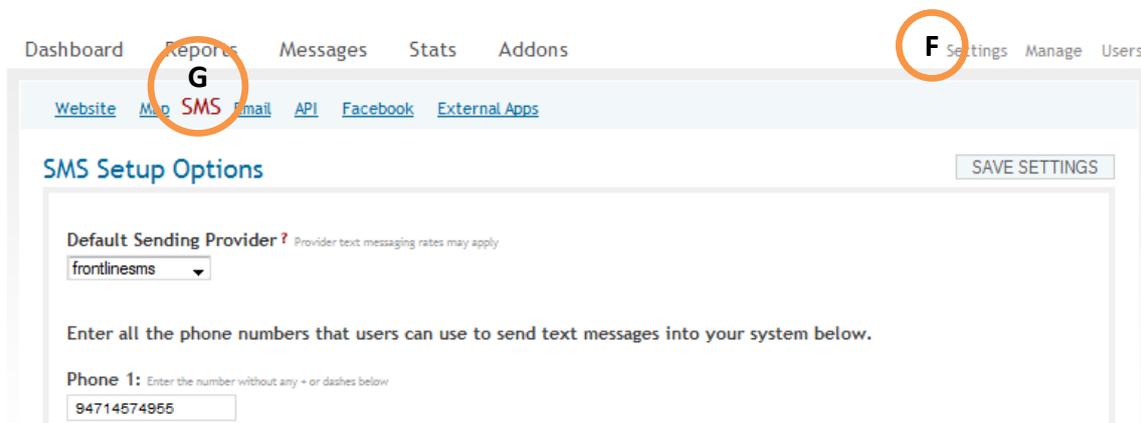
4. In FrontlineSMS, open the Keywords **|H|** tab, select the "<NONE> **|I|**" keyword in the list on the left .Next, click on the "click here to go to advanced view" **|J|** link on the right below the "Keyword Actions" section.

At the bottom of the screen, click on "Auto Reply" and in the menu that pops up select the "External Command" **|K|**option.
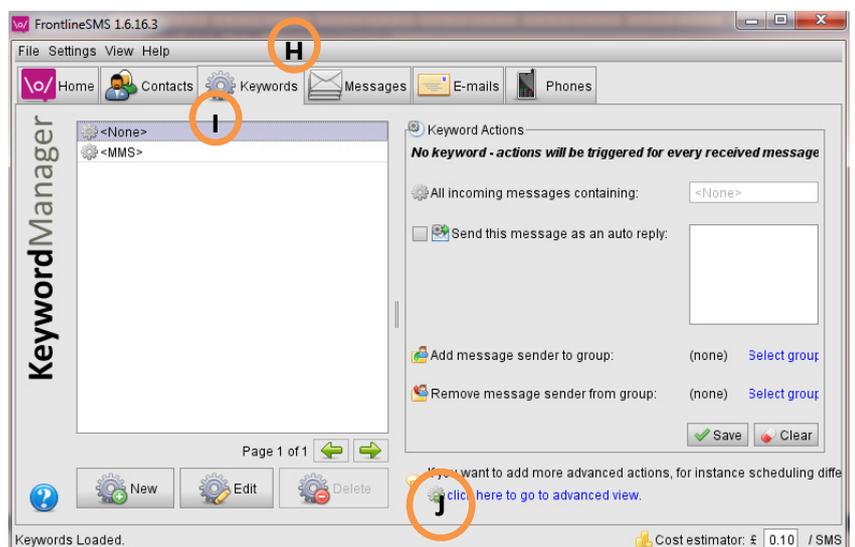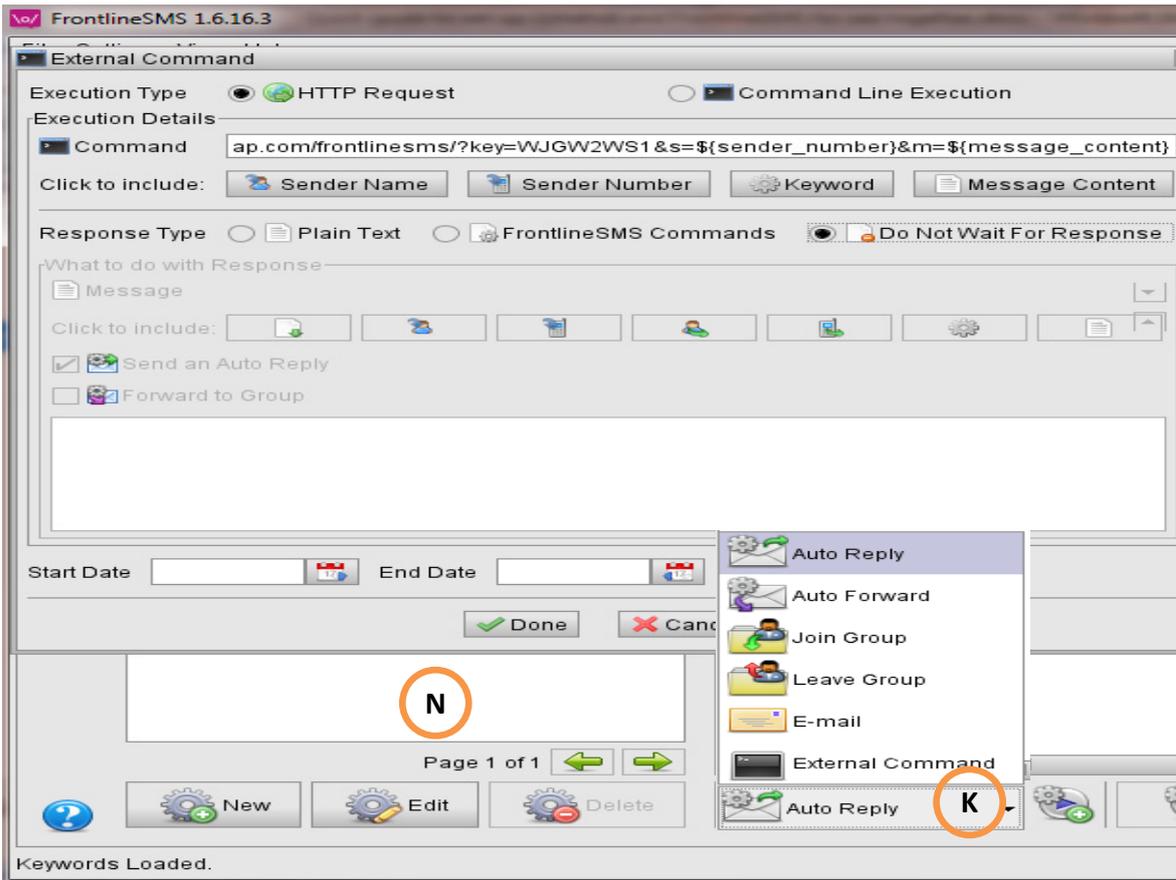
5. In the window that opens, select "HTTP Request" **|L|** as the execution type, paste the URL you copied from your Ushahidi deployment above **|2.E|** into the command text field that is in the "Execution Details" section and select the "Do Not Wait For Response" **|M|** button. Leave all the other fields untouched.

6. Then click "Done" **|N|** to complete the process. Now any SMS messages sent to FrontlineSMS will also be forwarded to the admin page of your Ushahidi platform.

For additional assistance, contact
Chandana Jayathilake at hackjayathilake@gmail.com
Mohomad Roshan at roshanemail@gmail.com
Tim Barlott at tbarlott@ualberta.ca

Annex 4

SWOT Analysis (Group Exercise 2)

Phase 1. Group work (15 minutes)

1. Form four groups.
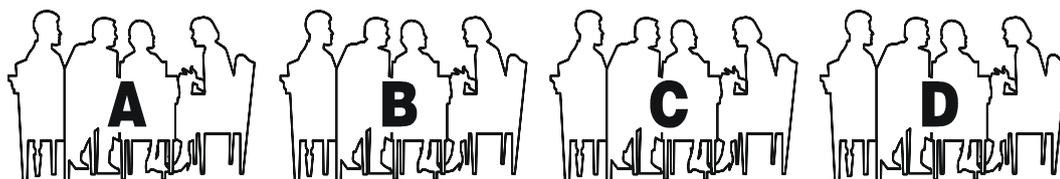
2. Each group elects a member who will take notes.
3. Each group has flipchart paper and markers. Group members refer to the attached handout on SWOT analysis.
4. Each group briefly discusses and records their answers on the following questions:
    a. What are the **strengths** of the low cost tools introduced in the workshop?
    b. What are the **weaknesses** of the low cost tools introduced in the workshop?
    c. What are the **opportunities** created by the potential use of the low cost tools introduced in the workshop?
    d. What are the **threats** created by the potential use of the low cost tools introduced in the workshop?
5. As the discussion addresses each question, the note taker records quickly the group's answers on the flipchart paper (which has on it a large size SWOT diagram – see the attached handout).

Phase 2. Reporting and discussion (15 minutes)

6. The note takers sit in a semi-circle in front of the audience—they form a "panel" during this exercise.
7. Each note taker presents in a few minutes one Strength, Weakness, Opportunity and Threat from his/her group's results to the audience in the following sequence: first group A, then B, C, and D. Continue until all SWOT points are covered.
8. After the four reports are over, facilitate a discussion with the audience.
9. Volunteers are asked to share quickly any key lessons learned during this exercise and their relevance to their work.
10. The facilitator ends the exercise by briefly summarizing the results.

SWOT Analysis = A tool for brainstorming strengths, weaknesses, opportunities and threats associated with an activity.

STRENGTHS	WEAKNESSES
What are the strengths associated with this activity?	What are the weaknesses associated with this activity?
OPPORTUNITIES	THREATS
What are the opportunities associated with this activity?	What are the threats associated with this activity?

Annex 5

Action Plans (Group Exercise 3)

Instructions

Action plans list ideas that you would like to try when you return to my work, based on what you have learned in this workshop.

List the items that you think you can do within 2 months, after 2 months or as the opportunity arises.

The organizers of this workshop are going to contact you again to see how if you have been able to achieve your action plans and what new activities related to the workshop you might be doing.

Give the attached form back to the workshop organizers so they know the actions you want to try. They will scan this copy and return it to you by email. Keep a copy for yourself by taking a photo of the form on your phone.

Now ….take a few moments and think about some possible action items. Here are some examples.

I plan to:

- share the examples of low cost ICTs within my organization

- download a copy of FrontlineSMS

- talk to my manager about using an online mapping (Ushahidi) in the agricultural program at our organization

- send LIRNEAsia an email about further information I need for using low cost ICTs in my work

- send an email to the workshop organizers with research questions that I think should be included in this project

- etc ….. your action plan is your own so we are looking forward to hearing more about your ideas

Ideas for Action Items

Date: _____

Workshop Title: An Introduction to Using Low Cost ICTs in Agricultural Communities of Practice - October 15, 2012

My name: _____

My email: _____

Action Items	Start to implement action plan (check if known)		
I plan to:	Within 2 months	After 2 months	As opportunity arises

Evaluation Form

An Introduction to Information Communication Technology for Agricultural Communities of Practice

October 15, 2012

Your co-operation in completing this questionnaire is greatly appreciated. The information you provide will be useful to developing our action plans to follow up this workshop and in planning future events. **This evaluation is anonymous and you do not need to write your name on this form. The results will be summarized and share with workshop participants and organizers.**

General **Objectives**	In general I would rate the workshop as: ☐ Excellent ☐ Good ☐ Average ☐ Fair ☐ Poor	Would you say that the workshop's objective were achieved? ☐ Yes ☐ Partially ☐ No
Objectives	The content and objectives of this workshop are listed below. Please mark on a scale of 1 to 5 if, in your opinion on whether or not these points have been achieved. The scale ranges from low **(the objective ha been achieved)** to high **(the objective has been fully achieved).**	

		1	2	3	4	5
1.	To raise awareness and introduce the use of low cost ICT in agriculture	1	2	3	4	5
2.	To enable you to use low cost communication tools that involve free and open source software	1	2	3	4	5
3.	To identify the strengths, weaknesses, opportunities and threats (SWOT) of using these tools in your community	1	2	3	4	5
4.	To help *you* to think about how these tools might benefit *your* community using a quick action planning tool	1	2	3	4	5
5.	To help us understand your needs and objectives and provide feedback to the project and workshop organizers.	1	2	3	4	5

Strengths and Weaknesses

Please list what you consider to be three **strengths** of the workshop.

1.
2.
3.

Please list what you consider to be three **weaknesses** of the workshop.

1.
2.
3.

Workshop Services / Features

	Very Good	Good	Fair	Poor
Meals	☐	☐	☐	☐
Presentations	☐	☐	☐	☐
Discussions	☐	☐	☐	☐
Organization and Management	☐	☐	☐	☐

Comments

Please use the space below to write down any additional questions, comments or suggestions you might have.

_____

_____

_____

_____

Annex 7

Results from Workshop Evaluation

At the end of the workshop all the participants were given a workshop evaluation form to be filled (Annex 5). Among all the participants only thirteen completed the evaluation form. Summarized results of the final evaluation are given below.

7.1   General Objectives

7.1.1 Rates given for the overall success

Rate	Number of Participants
Excellent	3
Good	9
Average	1
Fair	-
Poor	-
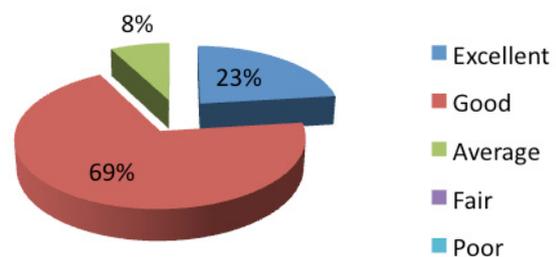
7.2.2 Achievement of Objectives

Level of Achievement	Number of Participants
Yes	9
Partially	4
No	-
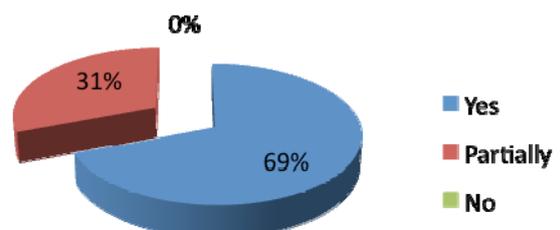
7.2 Achievement level of Each Objective

| Objective	Level at which each Objective Met				
	1	**2**	**3**	**4**	**5**
1. To raise awareness and introduce the use of low cost ICT in agriculture	3	1	1	7	1
2. To enable you to use low cost communication tools that involve free and open source software	2	2	4	5	-
3. To identify the strengths, weaknesses, opportunities and threats (SWOT) of using these tools in your community	1	3	1	7	1
4. To help *you* to think about how these tools might benefit *your* community using a quick action planning tool	1	1	6	5	-
5. To help us understand your needs and objectives and provide feedback to the project and workshop organizers	-	2	4	5	1

(The scale ranges from low to high)

Objective 1 — 1: 23%, 2: 7%, 3: 8%, 4: 54%, 5: 8%

Objective 2 — 1: 15%, 2: 15%, 3: 31%, 4: 39%, 5: 0%

Objective 3 — 1: 7%, 2: 23%, 3: 8%, 4: 54%, 5: 8%

Objective 4 — 1: 11%, 2: 11%, 3: 65%, 4: 13%, 5: 0%
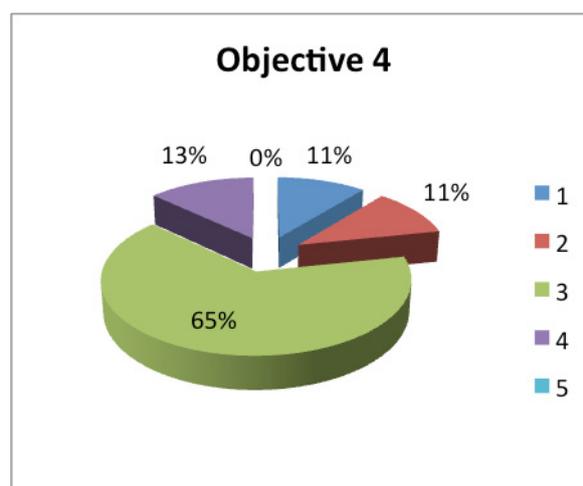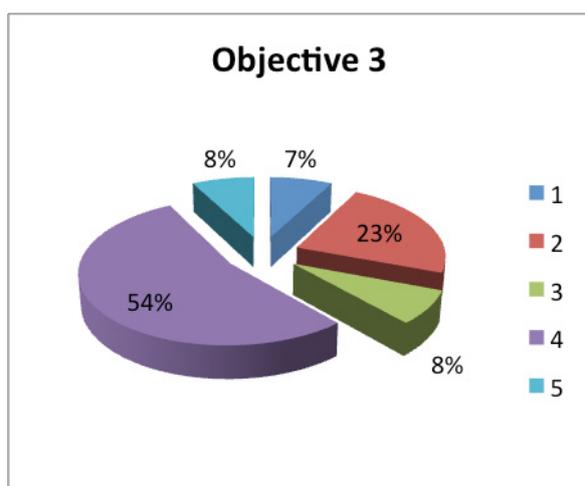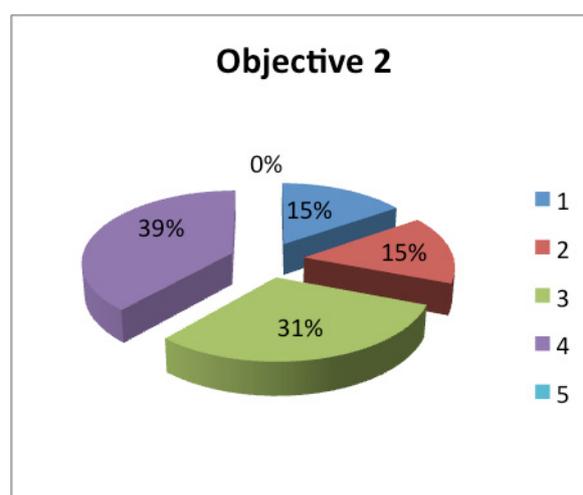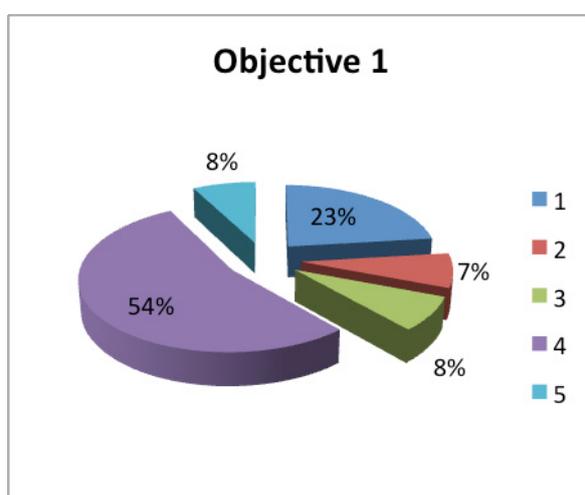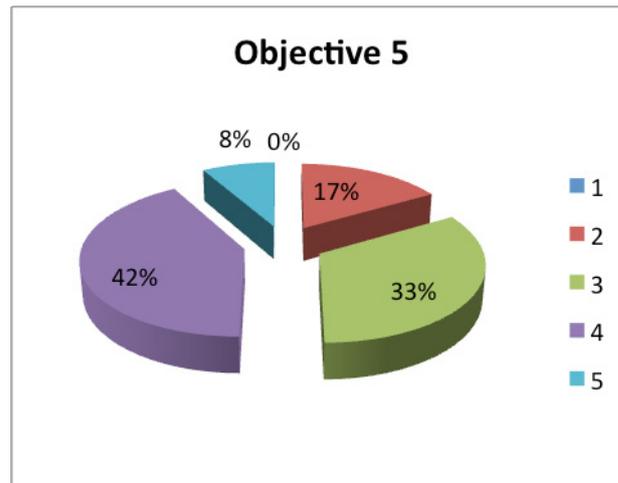
7.3 Satisfactory Levels of Workshop Services

Service	Satisfactory Level			
	Very Good	Good	Fair	Poor
Meals	4	7	1	-
Presentations	5	8	1	-
Discussions	5	8	1	-
Organization & Management	6	6	2	-
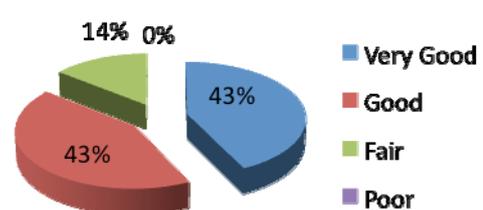
7.4   Strengths of the Workshop

- Thorough awareness of all three FOSS
- Effective time management throughout the whole process
- Having partnerships with different organizations
- Active participation of the participants
- Got an opportunity to Share information with experts
- Resource people were fully equipped with relevant technologies
- Good interaction among participants
- Well structured

7.5   Weaknesses of the Workshop

- Duration was not adequate
- Less time to develop practical skills

7.6   Comments of the Participants

- It would be better if the group exercises were given some more time
- The opportunity was very useful to share Canadian expert's experiences on low cost ICTs and also to get knowledge about low cost ICTs
- Much attention should be paid for the need of sustainable low cost extension service
- Further training would be effective in order to work on some case studies and to get more experience on low cost ICTs

Annex 8

Memories of the Workshop

Workshop Group photograph

Workshop Facilitators and Trainers

Additional Secretary Endorsing the Project

Experimenting FrontlineSMS Keywords

Experimenting FrontlineSMS Radio

The SWOT Analysis

The SWOT Analysis Presentation (Group 3)

Enabling ICT Action Plan

Action Planning

Engaging in a Discussion

Receiving a Certificate